

What is claimed is:

1. A metal hydride alkaline storage cell comprising:
  - a positive electrode;
  - a separator impregnated with an electrolyte; and
- 5 a negative electrode comprising hydrogen-absorbing alloy powder, wherein said hydrogen-absorbing alloy powder has a layer of hydrogen-absorbing alloy oxide formed on the surface thereof, and a catalytic metal or metal compound is dotted on said layer of hydrogen-absorbing alloy oxide in a granular state by adding a substance which is soluble in the electrolyte,
- 10 said substance selected from the group consisting of a metal fluoride, a metal chloride, a metal iodide, and a metal sulfide, and a proportion of said substance to said hydrogen-absorbing alloy powder is restricted within the range of 0.1 to 2.5 wt.%.
2. The metal hydride alkaline storage cell of claim 1 wherein said metal fluoride is at least one metal fluoride selected from the group consisting of a cobalt fluoride, a nickel fluoride, an aluminum fluoride, and a copper fluoride.
3. The metal hydride alkaline storage cell of claim 1 wherein said metal fluoride is  $\text{CoF}_2$  and/or  $\text{NiF}_2$ .
- 20 4. The metal hydride alkaline storage cell of claim 1 wherein said metal chloride is a cobalt chloride and/or a nickel chloride.
5. The metal hydride alkaline storage cell of claim 1 wherein said metal iodide is a cobalt iodide and/or a nickel iodide.
6. The metal hydride alkaline storage cell of claim 1 wherein said metal sulfide is a cobalt sulfide and/or a nickel sulfide.

7. The metal hydride alkaline storage cell of claim 1, 2, 3, 4, 5, or 6 wherein said hydrogen-absorbing alloy powder is selected from the group consisting of rare-earth element based hydrogen-absorbing alloy powder, Zr-Ni based hydrogen-absorbing alloy powder, Ti-Fe based hydrogen-absorbing alloy powder, Zr-Mn based hydrogen-absorbing alloy powder, Ti-  
5 Mn based hydrogen-absorbing alloy powder, and Mg-Ni based hydrogen-absorbing alloy powder.

8. The metal hydride alkaline storage cell of claim 1, 2, 3, 4, 5, or 6 wherein said hydrogen-absorbing alloy powder comprises hydrogen-absorbing alloy having a  $\text{CaCu}_5$  type crystal structure expressed by the general formula  $\text{MmNi}_a\text{Co}_b\text{Al}_c\text{Mn}_d$ , where  $a>0$ ,  $b>0$ ,  $c>0$ ,  $d\geq 0$ , and  
10  $4.4\leq a+b+c+d\leq 5.4$ .

9. A method of manufacturing a metal hydride alkaline storage cell comprising the steps of:  
15 a first step of preparing a negative electrode by applying a paste onto a substrate, wherein said paste contains hydrogen-absorbing alloy powder and a metal compound which is soluble in an electrolyte and selected from the group consisting of a metal fluoride, a metal chloride, a metal iodide, and a metal sulfide, in the proportion of 0.1 to 2.5 wt.% based on the weight  
20 of said hydrogen-absorbing alloy powder; and  
a second step of placing said negative electrode and a positive electrode into a cell can with disposing a separator therebetween, and thereafter pouring an electrolyte into said cell can.

10. A method of manufacturing a metal hydride alkaline storage cell  
25 comprising the steps of:

a first step of preparing a negative electrode by applying a paste containing hydrogen absorbing alloy powder onto a substrate; and

a second step of placing said negative electrode and a positive electrode into a cell can with disposing a separator therebetween, and thereafter pouring

5 an electrolyte into said cell can, wherein said electrolyte contains a metal compound which is soluble in said electrolyte and selected from the group consisting of a metal fluoride, a metal chloride, a metal iodide, and a metal sulfide in the proportion of 0.1 to 2.5 wt.% based on the weight of said hydrogen-absorbing alloy powder.

10 11. The method of claim 9 or 10 wherein said metal fluoride is at least one metal fluoride selected from the group consisting of a cobalt fluoride, a nickel fluoride, an aluminum fluoride, and a copper fluoride.

12. The method of claim 9 or 10 wherein said metal fluoride is  $\text{CoF}_2$  and/or  $\text{NiF}_2$ .

15 13. The method of claim 9 or 10 wherein said metal chloride is a cobalt chloride and/or a nickel chloride.

14. The method of claim 9 or 10 wherein said metal iodide is a cobalt iodide and/or a nickel iodide.

20 15. The method of claim 9 or 10 wherein said metal sulfide is a cobalt sulfide and/or a nickel sulfide.

16. The method of claim 9 or 10 wherein said hydrogen-absorbing alloy powder is selected from the group consisting of rare-earth element based hydrogen-absorbing alloy powder, Zr-Ni based hydrogen-absorbing alloy powder, Ti-Fe based hydrogen-absorbing alloy powder, Zr-Mn based hydrogen-absorbing alloy powder, Ti-Mn based hydrogen-absorbing alloy

powder, and Mg-Ni based hydrogen-absorbing alloy powder.

17. The method of claim 9 or 10 wherein said hydrogen-absorbing alloy powder comprises hydrogen-absorbing alloy having a  $\text{CaCu}_5$  type crystal structure expressed by the general formula  $\text{MmNi}_a\text{Co}_b\text{Al}_c\text{Mn}_d$ , where  
5       $a>0$ ,  $b>0$ ,  $c>0$ ,  $d\geq 0$ , and  $4.4\leq a+b+c+d\leq 5.4$ .